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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,481	04/01/2004	Weilin Wang	110856-006UTL	1212

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EXAMINER	
AJIBADE AKONAI, OLUMIDE	

ART UNIT	PAPER NUMBER
2617	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/816,481	WANG ET AL.	
	Examiner	Art Unit	
	Olumide T. Ajibade-Akonai	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 October 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 4/1/04 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *09/19/2005, 02/07/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1 and 3-19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Regarding **claims 1**, the applicant discloses (in the claims) "sending a request to send message over a control channel to a second wireless communication device, the request to send message comprising a communication channel identifier representing the second channel; receiving at the second wireless communication device the request to send message; parsing the request to send message at the second wireless communication device to determine the second channel; sending from the second wireless communication device a clear to send message over the control channel in response to the request to send message; and sending a data communication from the first wireless communication device to the second wireless communication device over the second channel; and receiving at the second wireless communication device a data communication from the first wireless communication device on the second channel". This is clearly disclosed in the specification (see figs. 3A and 3B, pages 5-7). However, it is not clear and adequately

disclosed in the specification and drawings how the first wireless communication device "**sends a channel clearance assessment message over a first channel in an ad hoc mesh network; determines that the first channel is not available; sending a channel clearance message over a second channel in the ad hoc wireless mesh network; and determining that the second channel is available**" (see claim 1). The specification discloses the sending of a RTS message over a control channel from a first wireless communication device to a second wireless communication device, the RTS message including a selected channel for communication (see figs. 3A and 3B, page 6, [28], to page 7, [29]). According to the specification, the first wireless communication device (node 10, see figs. 3A and 3B) performs a clear channel assessment on a selected channel (see page 6, [25]-[27]). The first wireless communication device then sends the RTS packet/message containing the selected channel to the second wireless communication device (see page 5, [24] to page 6, [25], [28], and page 7, [29]). The clear channel assessment is already being performed by the first wireless device, and the RTS message that is sent to the second wireless communication device (node 20, see figs. 3A and 3B) contains the selected channel. The CTS message that is sent to the first wireless device from the second wireless device in response to the RTS message contains an acknowledgement of the selected channel in the RTS message (see page 7, [29]-[30]). There is no suggestion in the specification that the first wireless communication device "**sends a clear channel assessment message over a first channel in an ad hoc mesh network, and that the first wireless communication device sends a clear channel assessment**

message over a second channel, determining that the second channel is available, and sending a RTS message comprising a communication channel identifier representing the second channel" as claimed (see claim 1). The examiner respectfully requests the applicant to provide page(s), line(s), and figure(s) of the instant application that supports this limitation of the claim.

Regarding **claim 3**, there is no suggestion in the specification of the first wireless communication device "**sending a clear channel assessment message on a first channel in an ad hoc wireless mesh network; determining that the first channel is busy; sending a clear channel assessment message on a second channel in the ad hoc wireless mesh network; determining that the second channel is available; and sending a data communication frame on the second channel**", (see claim 3). The specification discloses the sending of a RTS message over a control channel from a first wireless communication device to a second wireless communication device, the RTS message including a selected channel for communication (see figs. 3A and 3B, page 6, [28], to page 7, [29]). According to the specification, the first wireless communication device (node 10, see figs. 3A and 3B) performs a clear channel assessment on a selected channel (see page 6, [25]-[27]). The first wireless communication device then sends the RTS packet/message containing the selected channel to the second wireless communication device (see page 5, [24] to page 6, [25], [28], and page 7, [29]). The clear channel assessment is already being performed by the first wireless device, and the RTS message that is sent to the second wireless communication device (node 20, see figs. 3A and 3B) contains the selected channel.

The CTS message that is sent to the first wireless device from the second wireless device in response to the RTS message contains an acknowledgement of the selected channel in the RTS message (see page 7, [29]-[30]). The examiner respectfully requests the applicant to provide page(s), line(s), and figure(s) of the instant application that supports this limitation of the claim. The examiner is rejecting the claims based on the broad understanding/interpretation of the applicant's specification.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1 and 3-19 are rejected under 35 U.S.C. 102(e) as being anticipated by **Alapuranen 6,687,259**.

Regarding **claims 1 and 3**, Alapuranen discloses a method for establishing a wireless data connection between wireless communication devices in an ad hoc wireless mesh network, comprising: sending from a first wireless communication device a channel clearance assessment message over a first channel in an ad hoc wireless mesh network (RTS see figs. 1 and 3, col. 6, lines 12-22, 39-60); determining that the first channel is not available (RTS containing channel vector indicating bad channels, see figs. 1 and 3, col. 8, lines 12-22, 39-60); sending a channel clearance assessment

message over a second channel in the ad hoc wireless mesh network (RTS containing channel vector indicating a good channel, see figs. 1 and 3, col. 8, lines 12-22, 39-60); determining that the second channel is available (RTS containing channel vector indicating a good channel, see figs. 1 and 3, col. 8, lines 12-22, 39-60); sending a request to send message over a control channel to a second wireless communication device (RTS see figs. 1 and 3, col. 6, lines 12-22, 39-60), the request to send message comprising a communication channel identifier representing the second channel (transmitting RTS comprising a channel vector, see col. 6, lines 12-22, 39-60); receiving at the second wireless communication device the request to send message (see col. 5, lines 57-64, col. 6, lines 12-22, 39-60); parsing the request to send message at the second wireless communication device to determine the second channel (transmitting RTS containing channel vector to a destination node so that the destination node can determine from the channel vector the true channel, see col. 12, lines 12-22, 39-60, col. 7, lines 60-66); sending from the second wireless communication device a clear to send message over the control channel in response to the request to send message (see fig. 4B, col. 8, lines 4-6); and sending a data communication from the first wireless communication device to the second wireless communication device over the second channel; and receiving at the second wireless communication device a data communication from the first wireless communication device on the second channel (see col. 8, lines 6-8).

Regarding **claim 4**, as applied to claim 3, Alapuranen further discloses wherein the data communication is one frame of an internet protocol datagram comprising a plurality of frames (see figs. 1 and 2, col. 4, lines 53-67, col. 8, lines 6-8).

Regarding **claim 5**, as applied to claim 3, Alapuranen further discloses executing a high bandwidth application over the wireless mesh network (see figs. 1 and 2, col. 4, lines 8-10, 36-43).

Regarding **claim 6**, as applied to claim 3, Alapuranen further discloses executing a high bandwidth application over the wireless mesh network (see figs. 1 and 2, col. 4, lines 8-10, 36-43).

Regarding **claim 7**, as applied to claim 6, Alapuranen further discloses wherein the high bandwidth application is for security (see figs. 1 and 2, col. 4, lines 8-10, 36-43).

Regarding **claim 8**, as applied to claim 6, Alapuranen further discloses wherein the high bandwidth application is for building automation (see figs. 1 and 2, col. 4, lines 8-10, 36-43).

Regarding **claim 9**, as applied to claim 6, Alapuranen further discloses wherein the high bandwidth application is for energy management (see figs. 1 and 2, col. 4, lines 8-10, 36-43).

Regarding **claim 10**, as applied to claim 6, Alapuranen further discloses wherein the high bandwidth application is for supply chain management (see figs. 1 and 2, col. 4, lines 8-10, 36-43).

Regarding **claim 11**, as applied to claim 6, Alapuranen further discloses wherein the high bandwidth application is for logistics (see figs. 1 and 2, col. 4, lines 8-10, 36-43).

Regarding **claim 12**, as applied to claim 6, Alapuranen further discloses wherein the high bandwidth application is for sensor data (see figs. 1 and 2, col. 4, lines 8-10, 36-43).

Regarding **claim 13**, as applied to claim 6, Alapuranen further discloses wherein the high bandwidth application is a data streaming application (see figs. 1 and 2, col. 4, lines 8-10, 36-43).

Regarding **claim 14**, as applied to claim 13, Alapuranen further discloses wherein the data streaming application comprises streaming video (see figs. 1 and 2, col. 4, lines 8-10, 36-43).

Regarding **claim 15**, as applied to claim 13, Alapuranen further discloses wherein the data streaming application comprises streaming audio (see figs. 1 and 2, col. 4, lines 8-10, 36-43).

Regarding **claim 16**, as applied tom claim 15, Alapuranen further discloses wherein the data streaming application comprises voice data (see figs. 1 and 2, col. 4, lines 8-10, 36-43).

Regarding **claim 17**, as applied to claim 6, Alapuranen further discloses wherein the high bandwidth application is a multi-player gaming application (see figs. 1 and 2, col. 4, lines 8-10, 36-43).

Regarding **claim 18**, as applied to claim 17, Alapuranen further discloses wherein the multi-player gaming application comprises real-time voice data (see figs. 1 and 2, col. 4, lines 8-10, 36-43).

Regarding **claim 19**, as applied to claim 5, Alapuranen further discloses wherein the high bandwidth application is a voice call (see figs. 1 and 2, col. 4, lines 8-10, 36-43).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

McKay et al 5,844,905 discloses extensions to distributed MAC protocols with collision avoidance using RTS/CTS exchange.

Stanforth et al 7,280,555 discloses a system and method employing algorithms and protocols for optimizing carrier sense multiple access (CSMA) protocols in wireless networks.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Olumide T. Ajibade-Akonai whose telephone number is 571-272-6496. The examiner can normally be reached on M-F, 8.30p-5p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rafael Perez-Gutierrez can be reached on 571-272-7915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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1/5/08